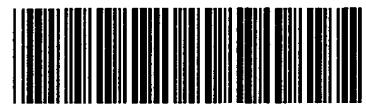


1638



1600

#7

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/10/035,060A

DATE: 10/17/2002  
TIME: 09:47:55

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Output Set: N:\CRF4\10172002\J035060A.raw

3 <110> APPLICANT: Edwards, David L.  
4 Hernstadt, Corinna  
5 Wilcox, Edward R.  
6 Wong, Siu-Yin  
8 <120> TITLE OF INVENTION: Process for Altering the Host Range of *Bacillus thuringiensis* Toxins, and  
9 Novel Toxins Produced Thereby  
11 <130> FILE REFERENCE: M12C1FDF3D2  
13 <140> CURRENT APPLICATION NUMBER: US 10/035,060A  
14 <141> CURRENT FILING DATE: 2001-12-27  
16 <150> PRIOR APPLICATION NUMBER: US 09/405,788  
17 <151> PRIOR FILING DATE: 1999-09-27  
19 <150> PRIOR APPLICATION NUMBER: US 08/855,160  
20 <151> PRIOR FILING DATE: 1997-05-13  
22 <150> PRIOR APPLICATION NUMBER: US 08/580,781  
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38 <151> PRIOR FILING DATE: 1989-05-24  
40 <150> PRIOR APPLICATION NUMBER: US 06/904,572  
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44 <151> PRIOR FILING DATE: 1985-12-12  
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62 gttgatataa tatgggaaat ttttggccc tctcaatggg acgcattttct tgtacaaatt 240  
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166	tccgtaccag	ctgattatgc	gtcagtctat	gaagaaaaat	cgtatacaga	tggacgaa	3360

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 170 gtgacaaaag aattagaata cttcccagaa accgataagg tatggattga gattggagaa 3480  
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 190 Tyr Thr Pro Ile Asp Ile Ser Leu Ser Leu Thr Gln Phe Leu Leu Ser  
 191 35 40 45  
 194 Glu Phe Val Pro Gly Ala Gly Phe Val Leu Gly Leu Val Asp Ile Ile  
 195 50 55 60  
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 199 65 70 75 80  
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 203 85 90 95  
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 207 100 105 110  
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 211 115 120 125  
 214 Glu Met Arg Ile Gln Phe Asn Asp Met Asn Ser Ala Leu Thr Thr Ala  
 215 130 135 140  
 218 Ile Pro Leu Phe Ala Val Gln Asn Tyr Gln Val Pro Leu Leu Ser Val  
 219 145 150 155 160  
 222 Tyr Val Gln Ala Ala Asn Leu His Leu Ser Val Leu Arg Asp Val Ser  
 223 165 170 175  
 226 Val Phe Gly Gln Arg Trp Gly Phe Asp Ala Ala Thr Ile Asn Ser Arg  
 227 180 185 190  
 230 Tyr Asn Asp Leu Thr Arg Leu Ile Gly Asn Tyr Thr Asp Tyr Ala Val  
 231 195 200 205  
 234 Arg Trp Tyr Asn Thr Gly Leu Glu Arg Val Trp Gly Pro Asp Ser Arg  
 235 210 215 220  
 238 Asp Trp Val Arg Tyr Asn Gln Phe Arg Arg Glu Leu Thr Leu Thr Val  
 239 225 230 235 240  
 242 Leu Asp Ile Val Ala Leu Phe Pro Asn Tyr Asp Ser Arg Arg Tyr Pro  
 243 245 250 255  
 246 Ile Arg Thr Val Ser Gln Leu Thr Arg Glu Ile Tyr Thr Asn Pro Val  
 247 260 265 270  
 250 Leu Glu Asn Phe Asp Gly Ser Phe Arg Gly Ser Ala Gln Gly Ile Glu  
 251 275 280 285  
 254 Arg Ser Ile Arg Ser Pro His Leu Met Asp Ile Leu Asn Ser Ile Thr  
 255 290 295 300  
 258 Ile Tyr Thr Asp Ala His Arg Gly Tyr Tyr Tyr Trp Ser Gly His Gln  
 259 305 310 315 320  
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270	Gln	Leu	Gly	Gln	Gly	Val	Tyr	Arg	Thr	Leu	Ser	Ser	Thr	Leu	Tyr	Arg
271				355			360							365		
274	Arg	Pro	Phe	Asn	Ile	Gly	Ile	Asn	Asn	Gln	Gln	Leu	Ser	Val	Leu	Asp
275				370			375							380		
278	Gly	Thr	Glu	Phe	Ala	Tyr	Gly	Thr	Ser	Ser	Asn	Leu	Pro	Ser	Ala	Val
279	385				390				395						400	
282	Tyr	Arg	Lys	Ser	Gly	Thr	Val	Asp	Ser	Leu	Asp	Glu	Ile	Pro	Pro	Gln
283					405				410						415	
286	Asn	Asn	Asn	Val	Pro	Pro	Arg	Gln	Gly	Phe	Ser	His	Arg	Leu	Ser	His
287				420				425						430		
290	Val	Ser	Met	Phe	Arg	Ser	Gly	Phe	Ser	Asn	Ser	Ser	Val	Ser	Ile	Ile
291					435			440						445		
294	Arg	Ala	Pro	Thr	Phe	Ser	Trp	Gln	His	Arg	Ser	Ala	Glu	Phe	Asn	Asn
295					450			455						460		
298	Ile	Ile	Pro	Ser	Ser	Gln	Ile	Thr	Gln	Ile	Pro	Leu	Thr	Lys	Ser	Thr
299	465				470				475						480	
302	Asn	Leu	Gly	Ser	Gly	Thr	Ser	Val	Val	Lys	Gly	Pro	Gly	Phe	Thr	Gly
303					485				490						495	
306	Gly	Asp	Ile	Leu	Arg	Arg	Thr	Ser	Pro	Gly	Gln	Ile	Ser	Thr	Leu	Arg
307					500				505						510	
310	Val	Asn	Ile	Thr	Ala	Pro	Leu	Ser	Gln	Arg	Tyr	Arg	Val	Arg	Ile	Arg
311					515			520						525		
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315					530			535						540		
318	Pro	Ile	Asn	Gln	Gly	Asn	Phe	Ser	Ala	Thr	Met	Ser	Ser	Gly	Ser	Asn
319	545				550				555						560	
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323					565				570						575	
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327					580			585						590		
330	Ser	Gly	Asn	Glu	Val	Tyr	Ile	Asp	Arg	Ile	Glu	Phe	Val	Pro	Ala	Glu
331					595			600						605		
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335					610			615						620		
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339	625				630				635						640	
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343					645				650						655	
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347					660			665						670		
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351					675			680						685		
354	Phe	Arg	Gly	Ile	Asn	Arg	Gln	Leu	Asp	Arg	Gly	Trp	Arg	Gly	Ser	Thr
355					690			695						700		
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 366 Lys Ile Asp Glu Ser Lys Leu Lys Ala Tyr Thr Arg Tyr Gln Leu Arg  
 367 740 745 750  
 370 Gly Tyr Ile Glu Asp Ser Gln Asp Leu Glu Ile Tyr Leu Ile Arg Tyr  
 371 755 760 765  
 374 Asn Ala Lys His Glu Thr Val Asn Val Pro Gly Thr Gly Ser Leu Trp  
 375 770 775 780  
 378 Pro Leu Ser Ala Gln Ser Pro Ile Gly Lys Cys Gly Glu Pro Asn Arg  
 379 785 790 795 800  
 382 Cys Ala Pro His Leu Glu Trp Asn Pro Asp Leu Asp Cys Ser Cys Arg  
 383 805 810 815  
 386 Asp Gly Glu Lys Cys Ala His His Ser His His Phe Ser Leu Asp Ile  
 387 820 825 830  
 390 Asp Val Gly Cys Thr Asp Leu Asn Glu Asp Leu Gly Val Trp Val Ile  
 391 835 840 845  
 394 Phe Lys Ile Lys Thr Gln Asp Gly His Ala Arg Leu Gly Asn Leu Glu  
 395 850 855 860  
 398 Phe Leu Glu Glu Lys Pro Leu Val Gly Glu Ala Leu Ala Arg Val Lys  
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 402 Arg Ala Glu Lys Lys Trp Arg Asp Lys Arg Glu Lys Leu Glu Trp Glu  
 403 885 890 895  
 406 Thr Asn Ile Val Tyr Lys Glu Ala Lys Glu Ser Val Asp Ala Leu Phe  
 407 900 905 910  
 410 Val Asn Ser Gln Tyr Asp Gln Leu Gln Ala Asp Thr Asn Ile Ala Met  
 411 915 920 925  
 414 Ile His Ala Ala Asp Lys Arg Val His Ser Ile Arg Glu Ala Tyr Leu  
 415 930 935 940  
 418 Pro Glu Leu Ser Val Ile Pro Gly Val Asn Ala Ala Ile Phe Glu Glu  
 419 945 950 955 960  
 422 Leu Glu Gly Arg Ile Phe Thr Ala Phe Ser Leu Tyr Asp Ala Arg Asn  
 423 965 970 975  
 426 Val Ile Lys Asn Gly Asp Phe Asn Asn Gly Leu Ser Cys Trp Asn Val  
 427 980 985 990  
 430 Lys Gly His Val Asp Val Glu Glu Gln Asn Asn Gln Arg Ser Val Leu  
 431 995 1000 1005  
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 438 Cys Pro Gly Arg Gly Tyr Ile Leu Arg Val Thr Ala Tyr Lys Glu  
 439 1025 1030 1035  
 442 Gly Tyr Gly Glu Gly Cys Val Thr Ile His Glu Ile Glu Asn Asn  
 443 1040 1045 1050  
 446 Thr Asp Glu Leu Lys Phe Ser Asn Cys Val Glu Glu Glu Ile Tyr  
 447 1055 1060 1065  
 450 Pro Asn Asn Thr Val Thr Cys Asn Asp Tyr Thr Val Asn Gln Glu  
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 455 1085 1090 1095  
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The rules require that a line not exceed 72 characters in length. This includes spaces.

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